PIONEER
*The Art of Entertainment*

# *Service Manual*

ORDER NO.
**CRT1362**

**BRIDGEABLE POWER AMPLIFIER**

# GM-2200 EW, ES
# GM-1200 EW, ES

- **This additional service manual is designed to be used together with Model GM-H100/UC Service Manual (CRT1343). Refer to it for finding parts numbers, etc. which are not shown in this manual.**

## CONTENTS


1. ADJUSTMENT ..... 2
2. ELECTRICAL PARTS LIST ..... 3
3. CONNECTION DIAGRAM (GM-2200/EW, ES) ..... 6
4. SCHEMATIC CIRCUIT DIAGRAM (GM-2200/EW, ES) ..... 9
5. SCHEMATIC CIRCUIT DIAGRAM (GM-1200/EW, ES) ..... 11
6. CONNECTION DIAGRAM (GM-1200/EW, ES) ..... 13
7. EXPLODED VIEW ..... 16
8. PACKING METHOD ..... 20



**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
**PIONEER ELECTRONICS SERVICE INC.** P.O. Box 1760, Long Beach, California 90801 U.S.A.
**PIONEER ELECTRONICS OF CANADA, INC.** 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
**PIONEER ELECTRONIC [EUROPE] N.V.** Keetberglaan 1, 2740 Beveren, Belgium
**PIONEER ELECTRONICS AUSTRALIA PTY. LTD.** 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911


**© PIONEER ELECTRONIC CORPORATION 1991**


FA MAR. 1991 Printed in Japan

# 1. ADJUSTMENT

## ● Connection Diagram

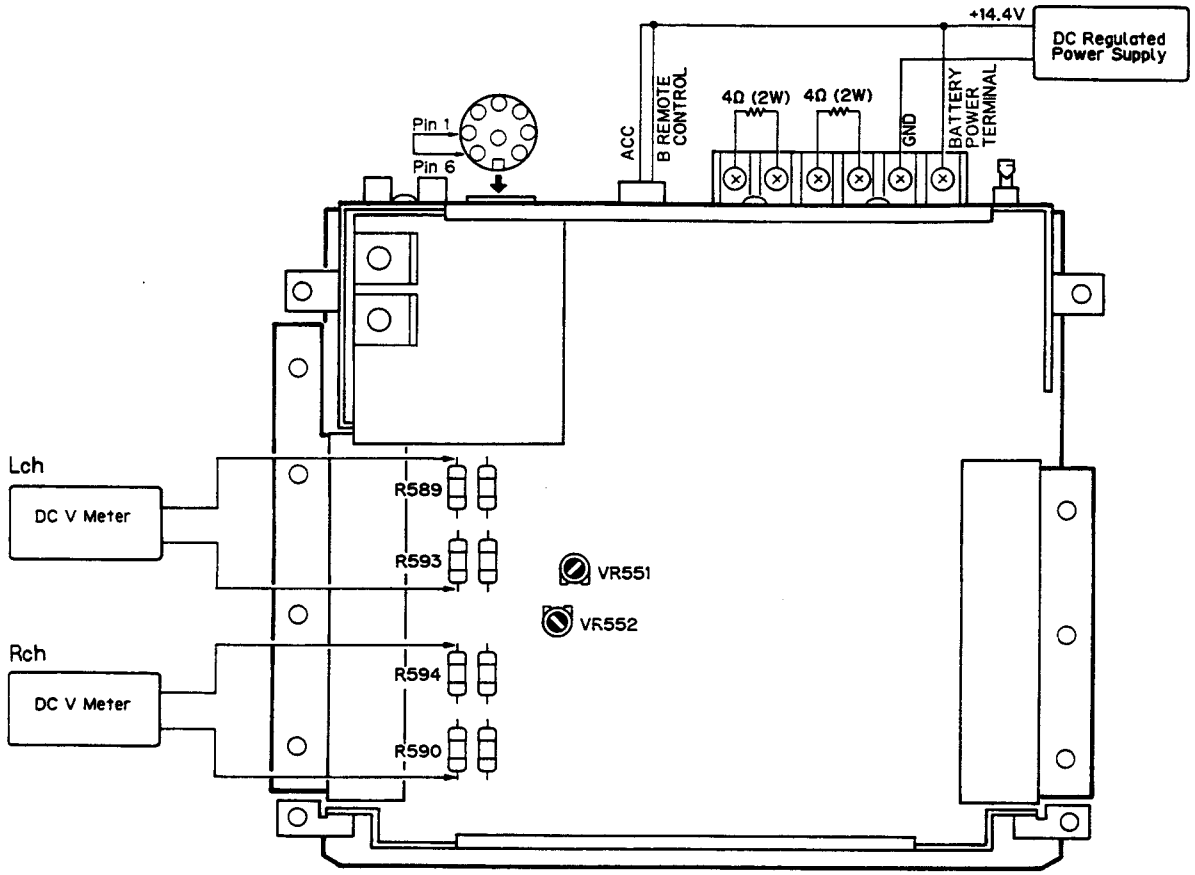



Fig. 1

### 1.1 IDLE CURRENT ADJUSTMENT

| No. | Adjusting Point | Adjustment Method (Switch Position) |
|---|---|---|
| 1 | | Rotate VR551 and VR552 counterclockwise.<br>Turn the power on, and wait about 10 minutes. |
| 2 | VR551 (Lch)<br>VR552 (Rch) | DC V Meter: 1.0mV+ 2.3mV<br>- 0.34mV<br>(DRIVE MODE SELECT SWITCH : 4Ω) |

PIONEER
*The Art of Entertainment*

# *Service Manual*

ORDER NO.
**CRT1362**

**BRIDGEABLE POWER AMPLIFIER**

# GM-1200

- **This additional service manual is designed to be used together with Model GM-H100/UC Service Manual (CRT1343). Refer to it for finding parts numbers, etc. which are not shown in this manual.**

## CONTENTS


1. ADJUSTMENT ..... 2
2. ELECTRICAL PARTS LIST ..... 3
3. CONNECTION DIAGRAM (GM-2200/EW, ES) ..... 6
4. SCHEMATIC CIRCUIT DIAGRAM (GM-2200/EW, ES) ..... 9
5. SCHEMATIC CIRCUIT DIAGRAM (GM-1200/EW, ES) ..... 11
6. CONNECTION DIAGRAM (GM-1200/EW, ES) ..... 13
7. EXPLODED VIEW ..... 16
8. PACKING METHOD ..... 20



**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
**PIONEER ELECTRONICS SERVICE INC.** P.O. Box 1760, Long Beach, California 90801 U.S.A.
**PIONEER ELECTRONICS OF CANADA, INC.** 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
**PIONEER ELECTRONIC [EUROPE] N.V.** Keetberglaan 1, 2740 Beveren, Belgium
**PIONEER ELECTRONICS AUSTRALIA PTY. LTD.** 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911


**© PIONEER ELECTRONIC CORPORATION 1991**


FA MAR. 1991 Printed in Japan

PIONEER
*The Art of Entertainment*

# *Service Manual*

ORDF .
CRT ,2

BRIDGEABLE POWER AMPLIFIER

# GM-2000

- **This additional service manual is designed to be used together with Model GM-H100/UC Service Manual (CRT1343). Refer to it for finding parts numbers, etc. which are not shown in this manual.**

## CONTENTS


1. ADJUSTMENT ..... 2
2. ELECTRICAL PARTS LIST ..... 3
3. CONNECTION DIAGRAM (GM-2200/EW, ES) ..... 6
4. SCHEMATIC CIRCUIT DIAGRAM (GM-2200/EW, ES) ..... 9
5. SCHEMATIC CIRCUIT DIAGRAM (GM-1200/EW, ES) ..... 11
6. CONNECTION DIAGRAM (GM-1200/EW, ES) ..... 13
7. EXPLODED VIEW ..... 16
8. PACKING METHOD ..... 20



PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911


© PIONEER ELECTRONIC CORPORATION 1991


FA MAR. 199· Printed in Japan

# 1. ADJUSTMENT

● **Connection Diagram**

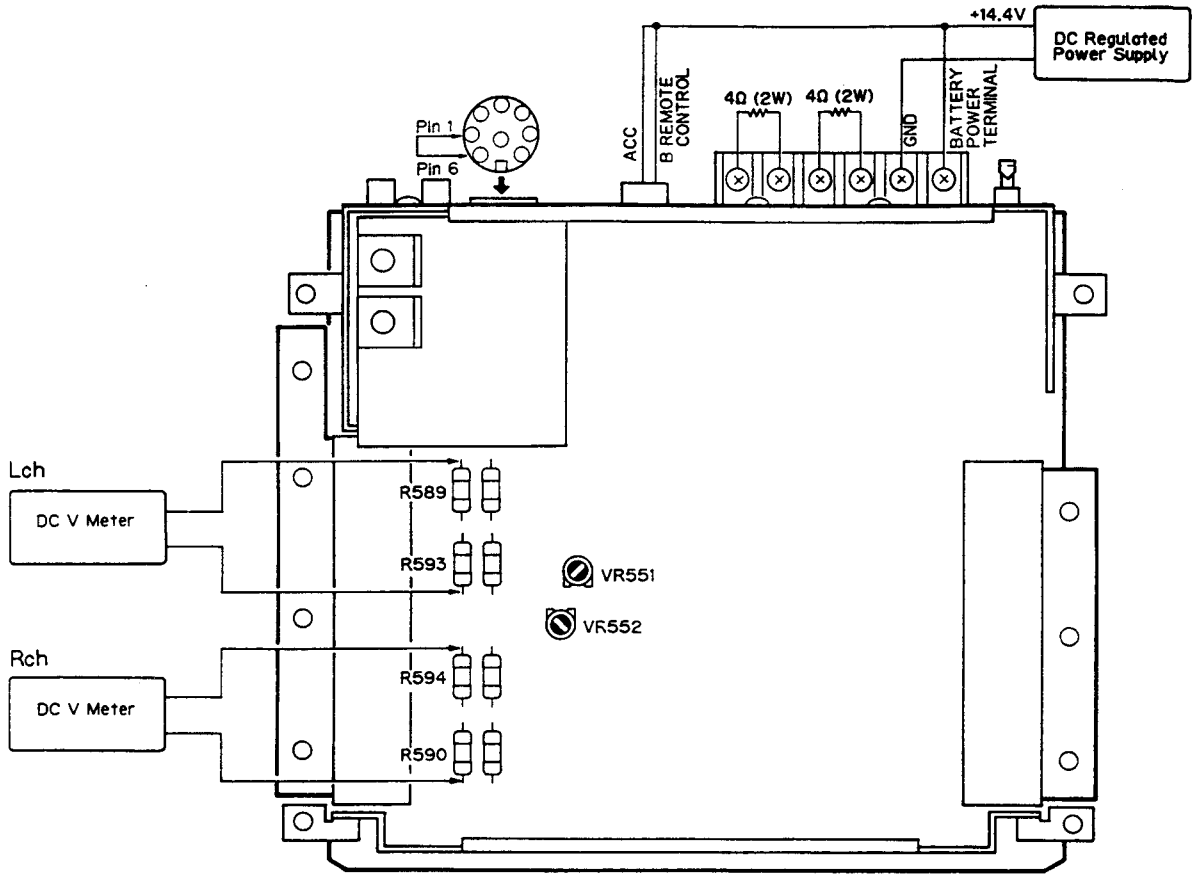



Fig. 1

## 1.1 IDLE CURRENT ADJUSTMENT

| No. | Adjusting Point | Adjustment Method (Switch Position) |
|---|---|---|
| 1 | | Rotate VR551 and VR552 counterclockwise.<br>Turn the power on, and wait about 10 minutes. |
| 2 | VR551 (Lch)<br>VR552 (Rch) | DC V Meter: 1.0mV+ 2.3mV<br>- 0.34mV<br>(DRIVE MODE SELECT SWITCH : 4Ω) |

PIONEER
*The Art of Entertainment*

# *Service Manual*

ORDF .
CRT ,2

BRIDGEABLE POWER AMPLIFIER

# GM-2000

- **This additional service manual is designed to be used together with Model GM-H100/UC Service Manual (CRT1343). Refer to it for finding parts numbers, etc. which are not shown in this manual.**

## CONTENTS


1. ADJUSTMENT ..... 2
2. ELECTRICAL PARTS LIST ..... 3
3. CONNECTION DIAGRAM (GM-2200/EW, ES) ..... 6
4. SCHEMATIC CIRCUIT DIAGRAM (GM-2200/EW, ES) ..... 9
5. SCHEMATIC CIRCUIT DIAGRAM (GM-1200/EW, ES) ..... 11
6. CONNECTION DIAGRAM (GM-1200/EW, ES) ..... 13
7. EXPLODED VIEW ..... 16
8. PACKING METHOD ..... 20



PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-991


© PIONEER ELECTRONIC CORPORATION 1991


FA MAR. 1991 Printed in Japan

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| R | 660 661 | | RD1/4PS223JL |
| R | 662 663 863 864 | | RD1/4PS103JL |
| R | 664 | | RD1/4PS123JL |
| R | 665 | | RD1/4PS331JL |
| R | 666 | Thermister | CCX1009 |
| R | 667 | | RD1/4PS822JL |
| R | 668 669 907 908 915 916 917 938 939 | | RD1/4PS472JL |
| R | 670 853 854 | | RD1/4PS104JL |
| R | 673 674 | | RD1/4PS393JL |
| R | 675 676 | | RD1/4PS564JL |
| R | 855 856 | | RD1/4PS274JL |
| R | 857 858 | | RD1/4PS471JL |
| R | 861 862 | | RD1/4PS187JL |
| R | 901 902 | | RD1/2PS220JL |
| R | 903 904 905 906 | | RD1/4PM820J |
| R | 909 910 | | RD1/4PS332JL |
| R | 911 942 | | RD1/4PS102JL |
| R | 912 | | RD1/4PS682JL |
| R | 913 | | RD1/4PS472JL |
| R | 914 | | RD1/4PS222JL |
| R | 918 | | RD1/4PS184JL |
| R | 919 | | RD1/4PS183JL |
| R | 920 | | RD1/4PS102JL |
| R | 921 | | RD1/4PS105JL |
| R | 922 | | RN1/4PC1502D |
| R | 923 924 | | RD1/4PS182JL |
| R | 928 929 | | RD1/4PM100J |
| R | 930 | | RD1/4PS152JL |
| R | 932 | | RD1/4PS103JL |
| R | 933 | | RD1/4PS102JL |
| R | 934 | | RD1/4PS821JL |
| R | 935 | | RD1/4PS101JL |
| R | 937 | | RD1/4PS104JL |
| R | 940 | | RD1/4PS122JL |
| R | 941 | | RD1/4PS122JL |
| R | 944 | | RD1/4PS473JL |
| R | 945 946 | | RD1/4PS182JL |

CAPACITORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| C | 351 352 | | CEZA100M16 |
| C | 551 | | CEZA101M10 |
| C | 553 554 | | CKPYB101K50L |
| C | 555 556 557 558 | | CCPSL330J50L |
| C | 559 560 561 562 | | CCPSL220J50L |
| C | 563 564 565 566 | | CQFAH224J50L |
| C | 567 568 | | CQFAH223J50L |
| C | 569 570 571 572 | | CQFA333J50L |
| C | 575 576 | 2200μF/35V | CCH1024 |
| C | 577 578 | | CKCYB102K50 |
| C | 579 580 | | CEA470M16L2 |
| C | 581 582 | | CEA471M35L2 |
| C | 651 | | CEA100M16L2 |
| C | 652 905 | | CEA101M16L2 |
| C | 653 | | CEA220M16L2 |
| C | 654 | | CEA4R7M35L2 |
| C | 656 | 220μF/10V | CCH1036 |
| C | 657 | 470μF/16V | CCH-114 |
| C | 851 852 | | CEZA2R2M50 |
| C | 853 | | CEA471M6R3L2 |
| C | 854 | (ES) | CKPYB102K50L |
| C | 854 | (EW) | CKPYB472K50 |
| C | 855 856 857 858 | | CEZA470M10 |
| C | 901 902 | 3900μF/16V | CCH1025 |
| C | 903 904 | | CQMA223J50 |
| C | 906 | | CEA471M10L2 |
| C | 907 | | CEA2R2M50L2 |
| C | 908 | | CQPA102J2A |
| C | 909 910 | 3900μF/35V | CCH1088 |
| C | 911 | | CEA102M16L2 |
| C | 913 914 | | CEA470M16L2 |
| C | 916 | | CEA101M10L2 |
| C | 917 | | CEA331M6R3L2 |
| C | 918 920 921 | | CKCYF473Z50 |
| C | 922 | (EW) | CKCYF473Z50 |
| C | 924 | (EW) | CKPYF473Z50 |

Miscellaneous Parts List

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| FU | 10 | Fuse 30A | CEK1140 |

## ● GM-1200/EW, ES

Unit Number :
Unit Name : Volume Unit

MISCELLANEOUS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| IC | 452 | | UPC4570HA |
| D | 912 | | PR3432S |
| VR | 451 | Volume 10kΩ (A) | CCS1174 |
| VR | 452 | Volume 10kΩ (C) | CCS1175 |

RESISTORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| R | 3 4 21 22 | | RS1/10S0R0J |
| R | 7 8 9 10 11 | | RS1/8S0R0J |
| R | 451 452 | | RS1/10S271J |
| R | 461 462 | | RS1/10S273J |
| R | 465 466 | | RS1/10S472J |
| R | 491 492 | | RS1/10S122J |

CAPACITORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| C | 453 454 | | CCSQSL330J50 |
| C | 459 | | CEWAS470M10 |
| C | 460 | | CEWAS101M10 |
| C | 461 462 | | CKSYB473K25 |

Unit Number :
Unit Name : Amp Unit

MISCELLANEOUS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| IC | 551 851 | | UPC4570HA |
| IC | 651 | | TA8194Z |
| IC | 901 | | UPC494C |
| Q | 551 552 | | 2SA1145 |
| Q | 553 554 | | 2SC2705 |
| Q | 555 556 | | 2SC3421 |
| Q | 557 558 | | 2SA1358 |
| Q | 559 560 | | 2SD1705 |
| Q | 561 562 | | 2SB1154 |
| Q | 563 564 | | 2SC1568 |
| Q | 651 652 658 659 909 919 | | 2SC2458 |
| Q | 654 | | 2SA1048 |
| Q | 655 660 851 852 910 911 | | 2SA1048 |
| Q | 656 657 661 912 913 | | 2SC2458 |
| Q | 662 | | 2SC3113 |
| Q | 663 | | 2SA1199S |
| Q | 664 665 | | 2SD1768S |
| Q | 901 902 | | 2SK1191 |
| Q | 905 907 | | 2SA1359 |
| Q | 906 908 | | 2SC3422 |

# 2. ELECTRICAL PARTS LIST

*NOTE:*

- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*

*Chip Resistor*

*RS1/8S □□□J, RS1/10S □□□J*

*Chip Capacitor (except for CQS.....)*

*CKS....., CCS....., CSZS.....*

## ● GM-2200/EW, ES

Unit Number :
Unit Name : Volume Unit

MISCELLANEOUS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| IC | 452 | | UPC4570HA |
| D | 912 | | PR3432S |
| VR | 451 | Volume 10kΩ (A) | CCS1174 |
| VR | 452 | Volume 10kΩ (C) | CCS1175 |

RESISTORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| R | 3 21 22 | | RS1/10S0R0J |
| R | 4 | | RS1/10S221J |
| R | 7 8 9 10 | | RS1/8S0R0J |
| R | 11 | | RS1/8S221J |
| R | 451 452 | | RS1/10S271J |
| R | 461 462 | | RS1/10S273J |
| R | 465 466 | | RS1/10S472J |
| R | 491 492 | | RS1/10S681J |

CAPACITORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| C | 453 454 | | CCSQSL330J50 |
| C | 459 | | CEWAS470M10 |
| C | 460 | | CEWAS101M10 |
| C | 461 462 | | CKSYB473K25 |

Unit Number :
Unit Name : Amp Unit

MISCELLANEOUS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| IC | 551 851 | | UPC4570HA |
| IC | 651 | | TA8194Z |
| IC | 901 | | UPC494C |
| Q | 551 552 | | 2SA1145 |
| Q | 553 554 | | 2SC2705 |
| Q | 555 556 | | 2SC3421 |
| Q | 557 558 | | 2SA1358 |
| Q | 559 560 | | 2SD1707 |
| Q | 561 562 | | 2SB1156 |
| Q | 563 564 | | 2SC1568 |
| Q | 651 652 658 659 909 919 | | 2SC2458 |
| Q | 654 | | 2SA1048 |
| Q | 655 660 851 852 910 911 | | 2SA1048 |
| Q | 656 657 661 912 913 | | 2SC2458 |
| Q | 662 | | 2SC3113 |
| Q | 663 | | 2SA1199S |
| Q | 664 665 | | 2SD1768S |
| Q | 901 902 903 904 | | 2SK1191 |
| Q | 905 907 | | 2SA1359 |
| Q | 906 908 | | 2SC3422 |
| Q | 914 916 | | 2SB1243 |
| Q | 915 917 | | 2SD1864 |
| Q | 918 | | 2SB1243 |
| D | 651 655 656 | | 1SS133 |
| D | 653 654 | | 1SS133 |
| D | 657 | | ERA15-02 |
| D | 658 905 | | ERA15-02VH |
| D | 659 | | RD6R8JSB2 |
| D | 660 910 | | RD9R1JSB2 |
| D | 661 662 663 902 903 | | 1SS133 |
| D | 901 | | RM4Z |
| D | 904 | | RBV-602L |
| D | 906 | | HZ30P |
| D | 907 908 | | RD16JSB1 |
| D | 909 | | 1SS133 |
| D | 911 | | RD6R2JSB3 |
| L | 551 552 | Coil | CTH1028 |
| L | 901 | Choke Coil | CTH1049 |
| L | 903 904 | Choke Coil | CTH1027 |
| L | 905 906 | | CCG-081 |
| L | 907 | Coil 100μH | CTF-113 |
| T | 901 | Transformer | CTT1011 |
| RY | 651 | Relay | CSR-040 |
| SW | 901 | Switch (BFC) | HSH-156 |
| SW | 902 | Switch (DRIVE MODE SELECT) | CSH1025 |
| VR | 551 552 | Semi-fixed 1.5kΩ (B) | VRT86VS152 |

RESISTORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| R | 351 352 | | RD1/4PS102JL |
| R | 353 354 | | RD1/4PS273JL |
| R | 551 552 555 678 859 860 | | RD1/4PS471JL |
| R | 553 554 | | RD1/4PS103JL |
| R | 557 558 | | RD1/4PS183JL |
| R | 559 560 561 562 925 926 | | RD1/4PS153JL |
| R | 563 564 565 566 | | RD1/4PS681JL |
| R | 567 568 569 570 579 580 581 582 671 672 | | RD1/4PS473JL |
| R | 571 572 573 574 | | RD1/4PS161JL |
| R | 575 576 | | RD1/4PS392JL |
| R | 577 578 677 851 852 | | RD1/4PS222JL |
| R | 583 931 | | RD1/4PS221JL |
| R | 584 | | RD1/4PS221JL |
| R | 585 586 588 | | RD1/4PS100JL |
| R | 587 | | RD1/4PS100JL |
| R | 589 590 591 592 593 594 595 596 | 0.22Ω/2W | CCN1013 |
| R | 597 598 599 600 | | RS1/2P100JL |
| R | 651 927 | | RD1/4PS103JL |
| R | 652 | | RD1/4PS473JL |
| R | 653 656 | | RD1/4PS223JL |
| R | 654 655 | | RD1/4PS222JL |
| R | 657 658 659 943 | | RD1/4PS223JL |

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| Q | 914 916 | | 2SB1243 |
| Q | 915 917 | | 2SD1864 |
| Q | 918 | | 2SB1243 |
| D | 651 655 656 | | 1SS133 |
| D | 653 654 | | 1SS133 |
| D | 657 | | ERA15-02 |
| D | 658 905 | | ERA15-02VH |
| D | 659 | | RD6R8JSB2 |
| D | 660 910 | | RD9R1JSB2 |
| D | 661 662 663 902 903 | | 1SS133 |
| D | 901 | | RM4Z |
| D | 904 | | RBV-602L |
| D | 906 | | HZ30P |
| D | 907 908 | | RD16JSB1 |
| D | 909 | | 1SS133 |
| D | 911 | | RD6R2JSB3 |
| L | 551 552 | Coil | CTH1028 |
| L | 901 | Choke Coil | CTH1031 |
| L | 903 904 | Choke Coil | CTH1036 |
| L | 905 906 | | CCG-081 |
| L | 907 | Coil 100μH | CTF-113 |
| T | 901 | Transformer | CTT1012 |
| RY | 651 | Relay | CSR1010 |
| SW | 901 | Switch (BFC) | HSH-156 |
| SW | 902 | Switch (DRIVE MODE SELECT) | CSH1025 |
| VR | 551 552 | Semi-fixed 1.5kΩ (B) | VRTB6VS152 |

RESISTORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| R | 351 352 | | RD1/4PS102JL |
| R | 353 354 | | RD1/4PS273JL |
| R | 551 552 555 678 859 860 | | RD1/4PS471JL |
| R | 553 554 | | RD1/4PS103JL |
| R | 557 558 | | RD1/4PS183JL |
| R | 559 560 561 562 925 926 | | RD1/4PS153JL |
| R | 563 564 565 566 | | RD1/4PS681JL |
| R | 567 568 569 570 579 580 581 582 671 672 | | RD1/4PS473JL |
| R | 571 572 573 574 | | RD1/4PS161JL |
| R | 575 576 | | RD1/4PS472JL |
| R | 577 578 677 851 852 | | RD1/4PS222JL |
| R | 583 931 | | RD1/4PS221JL |
| R | 584 | | RD1/4PS221JL |
| R | 585 586 588 | | RD1/4PS100JL |
| R | 587 | | RD1/4PS100JL |
| R | 589 590 591 592 593 594 595 596 | 0.22Ω/2W | CCN1013 |
| R | 597 598 599 600 | | RS1/2P100JL |
| R | 651 927 | | RD1/4PS103JL |
| R | 652 | | RD1/4PS473JL |
| R | 653 656 | | RD1/4PS223JL |
| R | 654 655 | | RD1/4PS222JL |
| R | 657 658 659 943 | | RD1/4PS223JL |
| R | 660 661 | | RD1/4PS223JL |
| R | 662 663 863 864 | | RD1/4PS103JL |
| R | 664 | | RD1/4PS123JL |
| R | 665 | | RD1/4PS331JL |
| R | 666 | Thermister | CCX1010 |
| R | 667 | | RD1/4PS822JL |
| R | 668 669 907 908 915 916 917 938 939 | | RD1/4PS472JL |
| R | 670 853 854 | | RD1/4PS104JL |
| R | 673 674 | | RD1/4PS393JL |
| R | 675 676 | | RD1/4PS564JL |
| R | 855 856 | | RD1/4PS274JL |
| R | 857 858 | | RD1/4PS471JL |
| R | 861 862 | | RD1/4PS182JL |
| R | 901 902 | | RD1/2PS220JL |
| R | 903 904 | | RD1/4PM820J |
| R | 909 910 | | RD1/4PS332JL |
| R | 911 942 | | RD1/4PS102JL |
| R | 912 | | RD1/4PS682JL |
| R | 913 | | RD1/4PS562JL |
| R | 914 | | RD1/4PS122JL |
| R | 918 | | RD1/4PS683JL |
| R | 919 | | RD1/4PS183JL |
| R | 920 | | RD1/4PS102JL |
| R | 921 | | RD1/4PS105JL |
| R | 922 | | RN1/4PC1502D |
| R | 923 924 | | RD1/4PS182JL |
| R | 928 929 | | RD1/4PM100J |
| R | 930 | | RD1/4PS152JL |
| R | 932 | | RD1/4PS103JL |
| R | 933 | | RD1/4PS102JL |
| R | 934 | | RD1/4PS821JL |
| R | 935 | | RD1/4PS101JL |
| R | 936 | | RD1/4PS683JL |
| R | 937 | | RD1/4PS104JL |
| R | 940 | | RD1/4PS122JL |
| R | 941 | | RD1/4PS122JL |
| R | 945 946 | | RD1/4PS182JL |

CAPACITORS

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| C | 351 352 | | CEZA100M16 |
| C | 551 | | CEZA101M10 |
| C | 553 554 | | CKPYB101K50L |
| C | 555 556 557 558 | | CCPSL330J50L |
| C | 559 560 561 562 | | CCPSL220J50L |
| C | 563 564 565 566 | | CQFAH224J50L |
| C | 567 568 | | CQFAH223J50L |
| C | 569 570 571 572 | | CQFA333J50L |
| C | 575 576 | 2200μF/35V | CCH1024 |
| C | 577 578 | | CKCYB102K50 |
| C | 579 580 | | CEA470M16L2 |
| C | 581 582 | | CEA471M35L2 |
| C | 651 | | CEA100M16L2 |
| C | 652 905 | | CEA101M16L2 |
| C | 653 | | CEA220M16L2 |
| C | 654 | | CEA4R7M35L2 |
| C | 656 | 220μF/10V | CCH1036 |
| C | 657 | 470μF/16V | CCH-114 |
| C | 851 852 | | CEZA2R2M50 |
| C | 853 | | CEA471M6R3L2 |
| C | 854 | (ES) | CKPYB102K50L |
| C | 854 | (EW) | CKPYB472K50 |
| C | 855 856 857 858 | | CEZA470M10 |
| C | 901 902 | 3300μF/16V | CCH1023 |
| C | 903 904 | | CQMA223J50 |
| C | 906 | | CEA471M10L2 |
| C | 907 | | CEA2R2M50L2 |
| C | 908 | | CQPA102J2A |
| C | 909 910 | 3300μF/25V | CCH1087 |
| C | 911 | | CEA102M16L2 |
| C | 913 914 | | CEA470M16L2 |
| C | 916 | | CEA101M10L2 |
| C | 917 | | CEA331M6R3L2 |
| C | 918 920 921 | | CKCYF473Z50 |
| C | 922 | (EW) | CKCYF473Z50 |
| C | 924 | (EW) | CKPYF473Z50 |

Miscellaneous Parts List

| Mark | Circuit Symbol & No. | Part Name | Part No. |
|---|---|---|---|
| FU | 10 | Fuse 15A | CEK1137 |

# 3. CONNECTION DIAGRAM

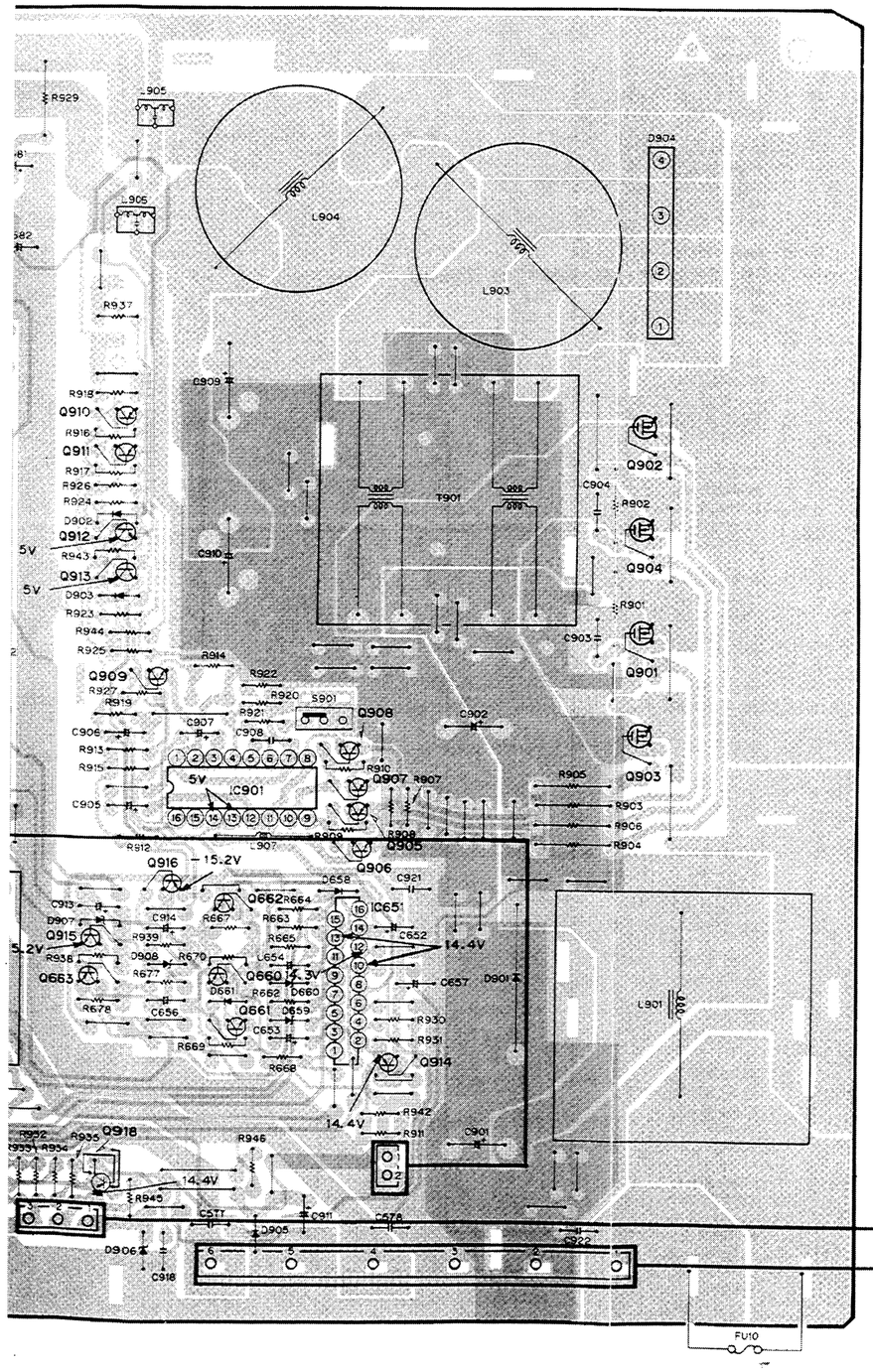
**AMP UNIT**

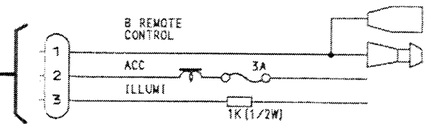
| | | |

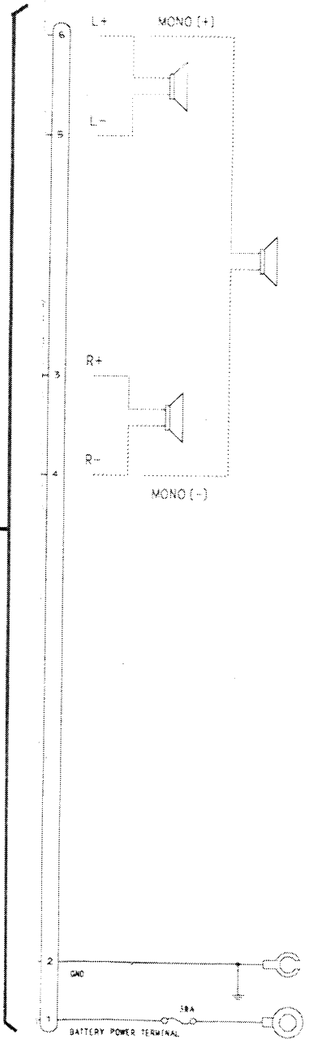
Q918 Q909
Q911 Q910 Q661
Q915 Q912 IC901 Q660
Q663 Q913 Q916 Q662

Q907 Q914
Q905 Q908
IC651 Q906

Q902 Q904
Q903 Q901




TO AMP UNIT

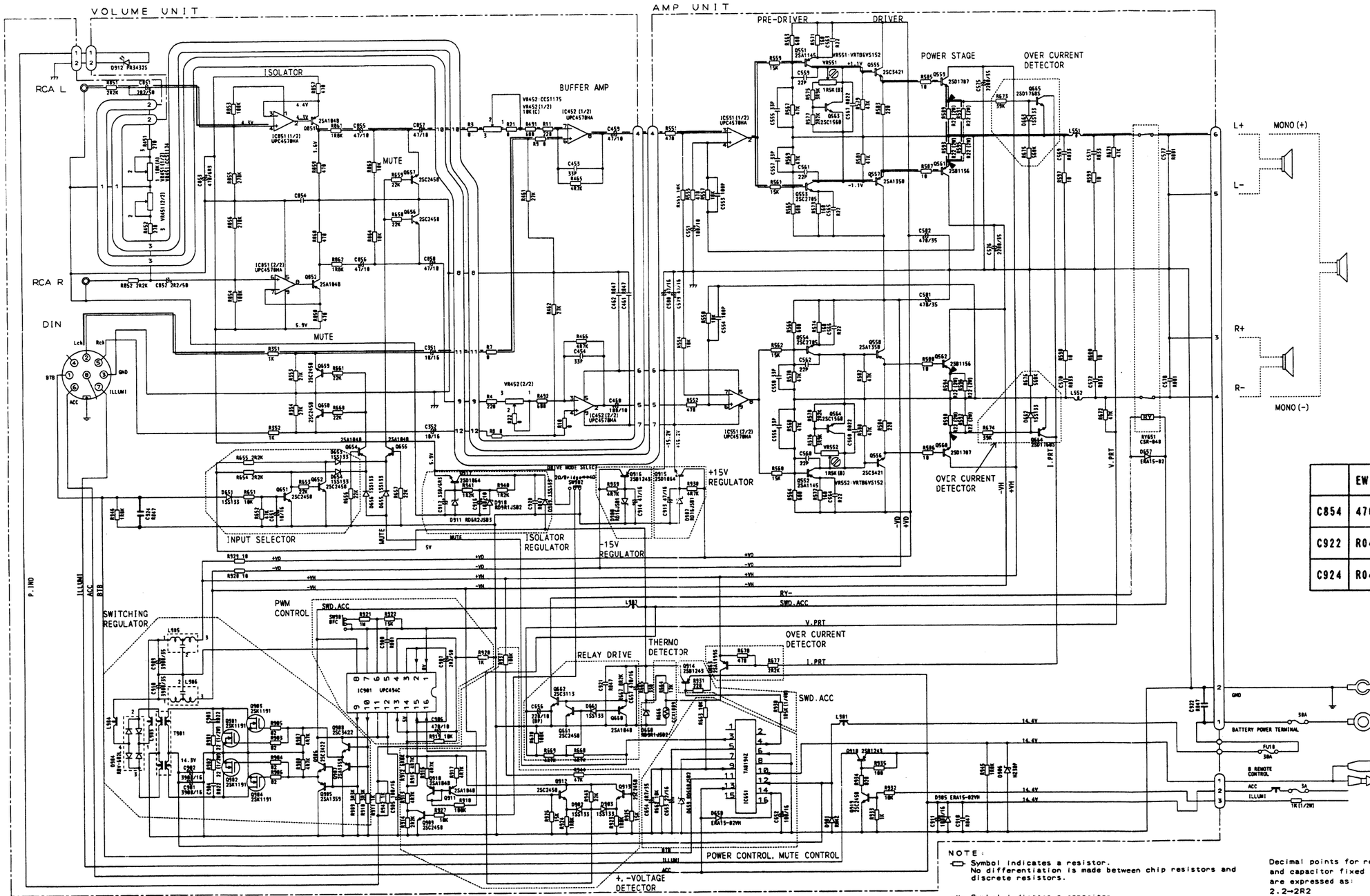
VOLUME UNIT

IC. Q IC452




Fig. 2

# 4. SCHEMATIC CIRCUIT DIAGRAM




| | EW | ES |
|---|---|---|
| C854 | 4700P | R001 |
| C922 | R047 | ····· |
| C924 | R047 | ····· |

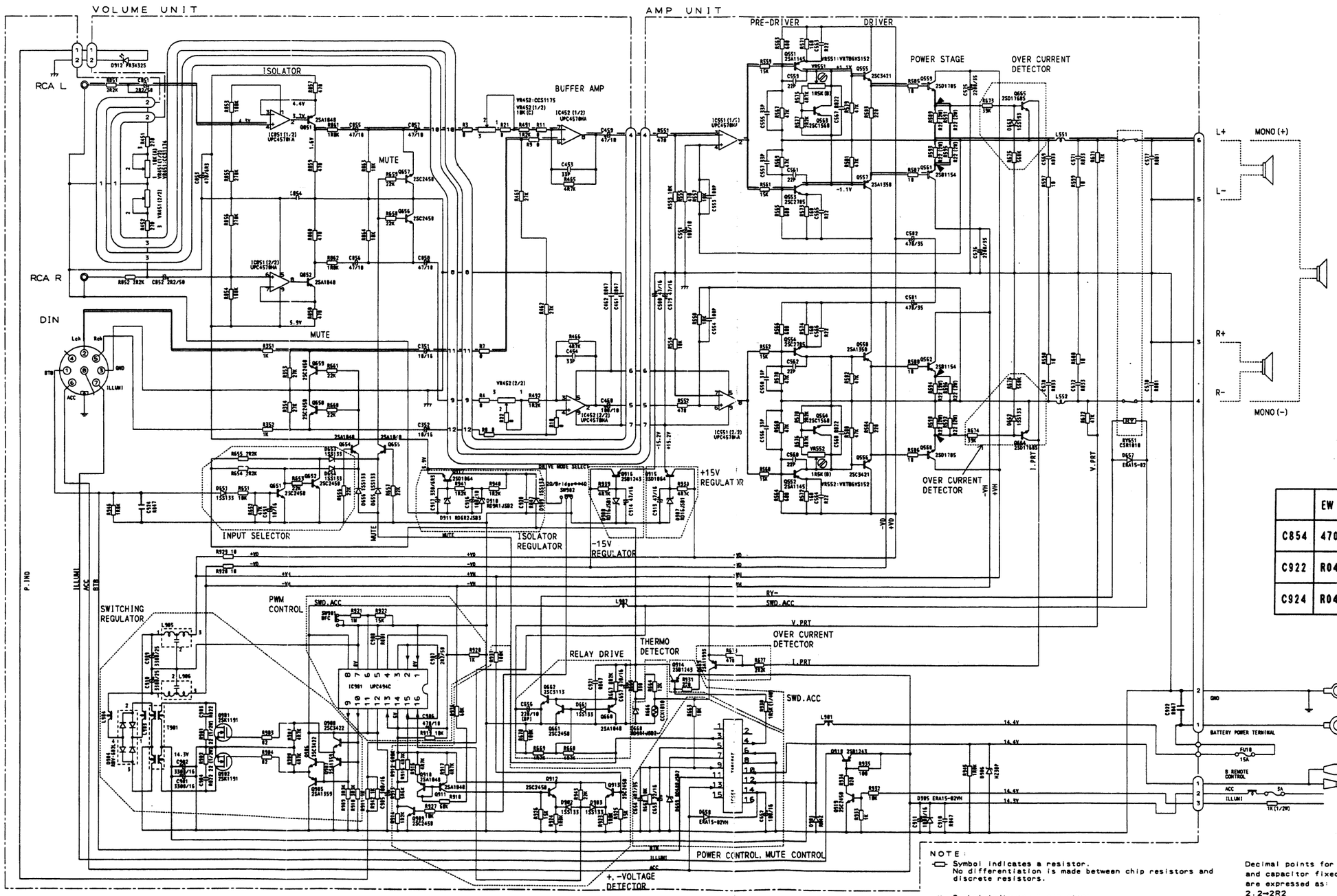
NOTE:
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

SWITCHES:
AMP UNIT
SW901: BFC SWITCH ····· LOW-HIGH
SW902: DRIVE MODE SELECT SWITCH ·· 2Ω/Bridge-4Ω
The underlined indicates the switch position.

Fig. 3

# 5. SCHEMATIC CIRCUIT DIAGRAM (GM-1200/EW, ES)




| | EW | ES |
|---|---|---|
| C854 | 4700P | R001 |
| C922 | R047 | ····· |
| C924 | R047 | ····· |

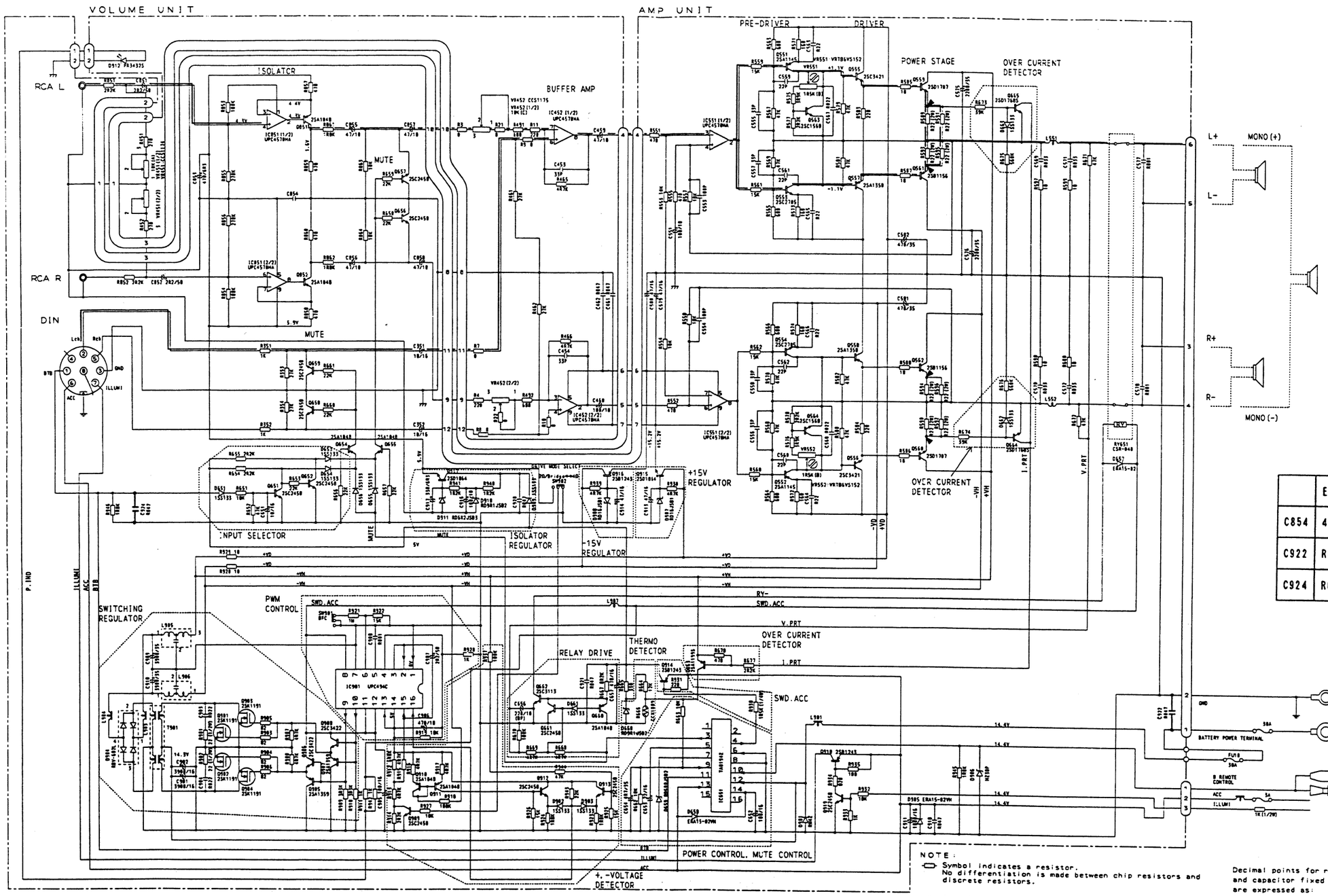
NOTE:
- ⇨ Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- ⊣⊢ Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

SWITCHES:
AMP UNIT
SW901: BFC SWITCH ····· LOW-HIGH
SW902: DRIVE MODE SELECT SWITCH ·· 2Ω/Bridge-4Ω
The underlined indicates the switch position.

Fig. 4

# 4. SCHEMATIC CIRCUIT DIAGRAM (GM-2200/EW, ES)




| | EW | ES |
|---|---|---|
| C854 | 4700P | R001 |
| C922 | R047 | ····· |
| C924 | R047 | ····· |

NOTE:

⇨ Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.

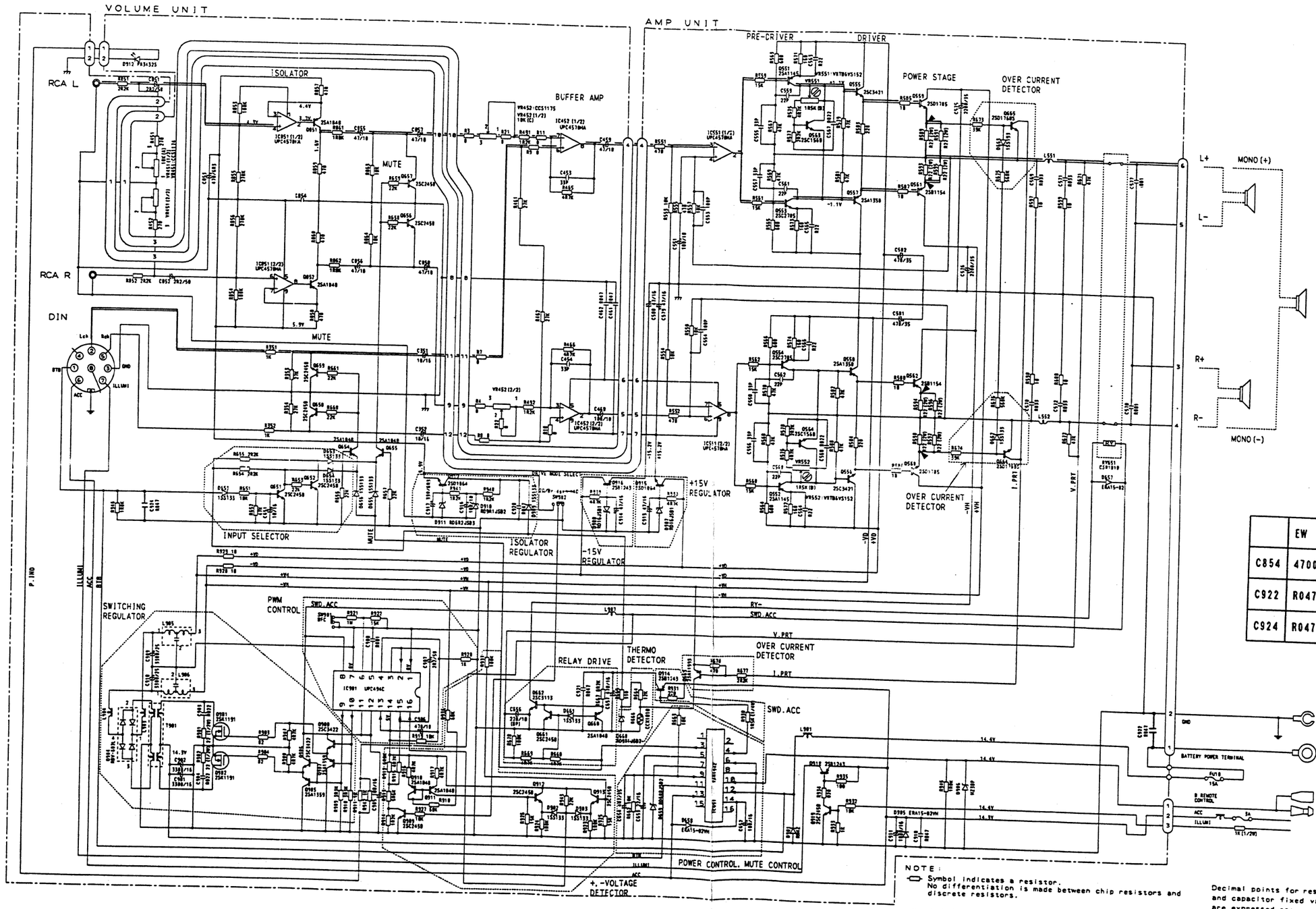
⊣⊢ Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

SWITCHES:
AMP UNIT
SW901: BFC SWITCH ····· LOW–HIGH
SW902: DRIVE MODE SELECT SWITCH ·· 2Ω/Bridge–4Ω
The underlined indicates the switch position.

Fig. 3

# 5. SCHEMATIC CIRCUIT DIAGRAM (GM-1200/EW, ES)




| | EW | ES |
|---|---|---|
| C854 | 4700P | R001 |
| C922 | R047 | ..... |
| C924 | R047 | ..... |

NOTE:
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

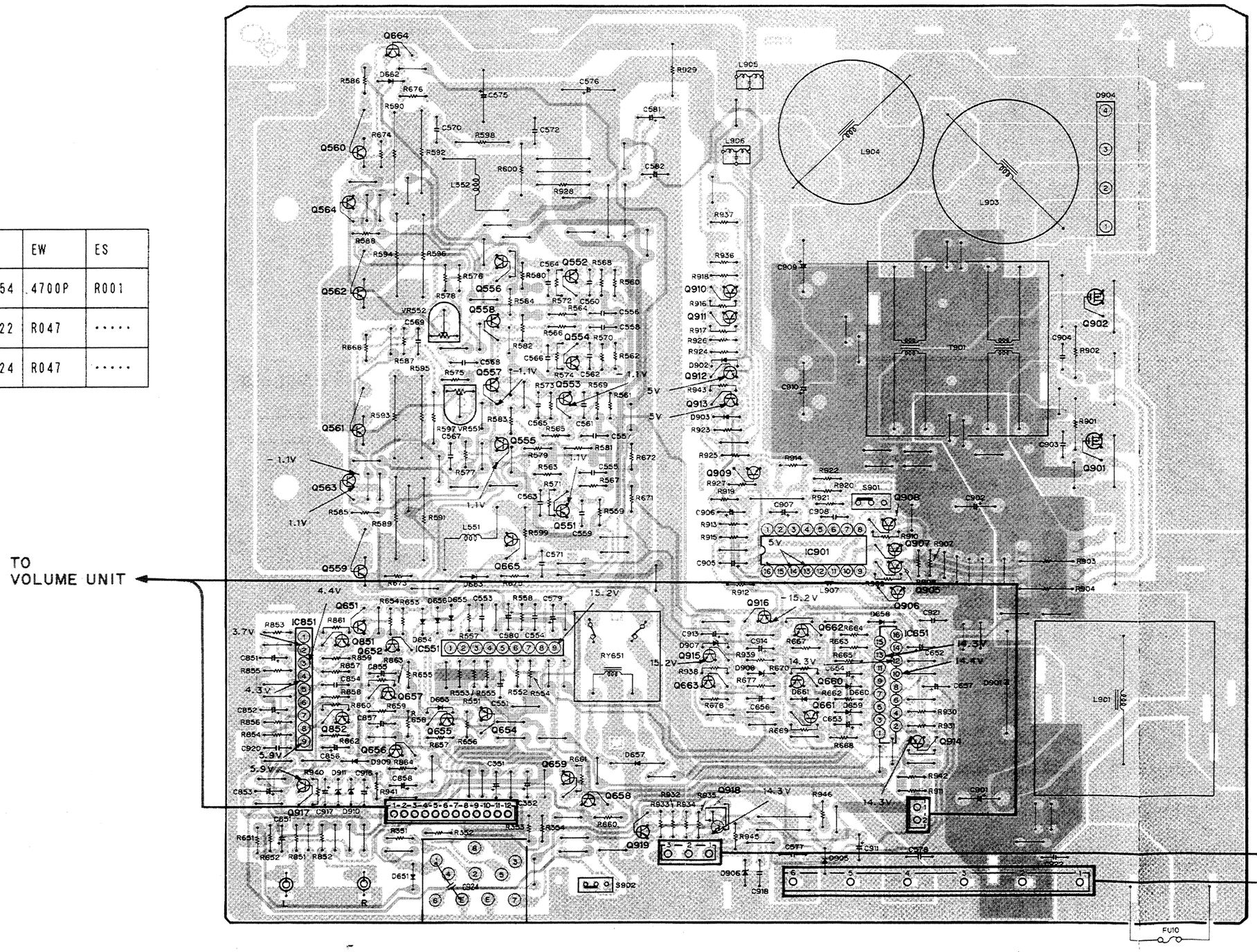
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

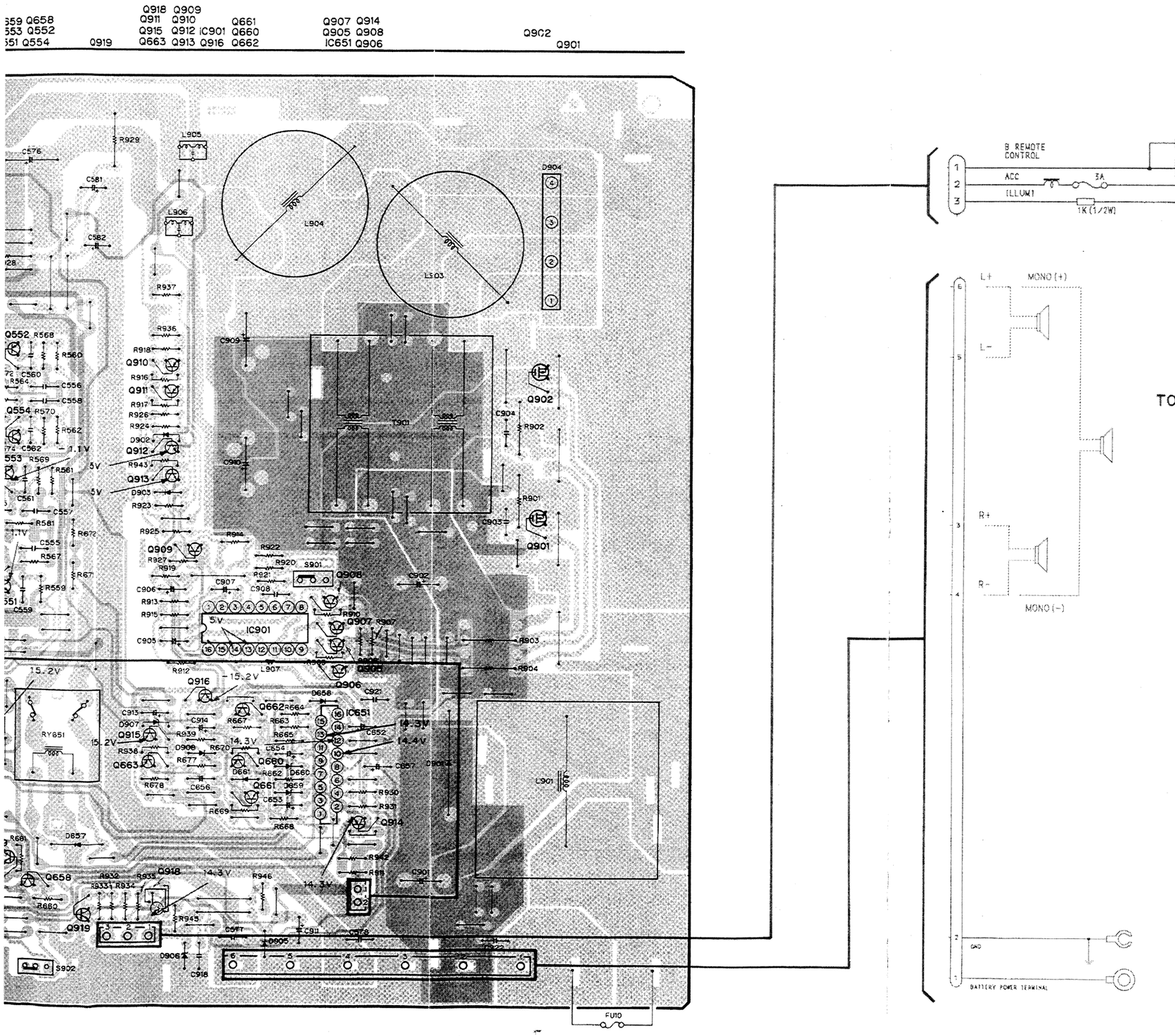
SWITCHES:
AMP UNIT
SW901: BFC SWITCH ..... LOW-HIGH
SW902: DRIVE MODE SELECT SWITCH ..2Ω/Bridge-4Ω
The underlined indicates the switch position.

Fig. 4

# 6. CONNECTION DIAGRAM (GM-1200/EW, ES)

| | EW | ES |
|---|---|---|
| C854 | .4700P | R001 |
| C922 | R047 | ····· |
| C924 | R047 | ····· |




Q658 Q552 Q554 Q919
Q918 Q909 Q911 Q910 Q915 Q912 Q663 Q913
IC901 Q661 Q660 Q916 Q662
Q907 Q914 Q905 Q908 IC651 Q906
Q902 Q901
L905 L906 L904 L903
D904
R929 C576 C581 C582 R937 R936
Q552 R568 R560 C560 R564 C556 C558
Q554 R570 R562 C562 R569 R561 C561 C557 R581 R672 C555 R567 R671 R559 C559
Q910 R916 Q911 R917 R926 R924 D902 Q912 R943 Q913 D903 R923 R925 R944 R922 R920 S901 Q909 R927 R919 R921 Q908 C907 C906 C908 C902 R913 R915 C905 IC901 5V R907 Q907 R903 R912 L907 Q905 R904
C909 C910 T901 C904 R902 Q902 R901 C903 Q901
15.2V Q916 -15.2V Q906 D658 C921 IC651 14.3V 14.4V
RY851 15.2V C915 D907 Q915 C914 R939 D906 Q663 R677 R678 Q662 R664 R667 R663 R665 14.3V R670 C654 Q660 D661 R662 D660 Q661 D659 C653 R669 R668 C652 C657 R930 R931 Q914 D906 L901
D657 R681 Q658 R932 R933 R934 Q918 14.3V R946 R945 R941 C911 C918 D905 D906 C918 S902
B REMOTE CONTROL
1 2 3
ACC 3A
ILLUM
1K (1/2W)
L+ MONO (+) L-
6 5 4 3 2 1
R+ R- MONO (-)
GND
BATTERY POWER TERMINAL
TO AMP UNIT
VOLUME UNIT
IC. Q IC452
R452 R451 VR451 C460 C459 R455 R466 C453 C454
IC452 C461 C462 R11 R9 R10 R492 R491 R21 R22 VR452 R462 R7 R8 R461 R4 R3 D912
FU10

A

B

C

D

Fig. 5

## 7. EXPLODED VIEW

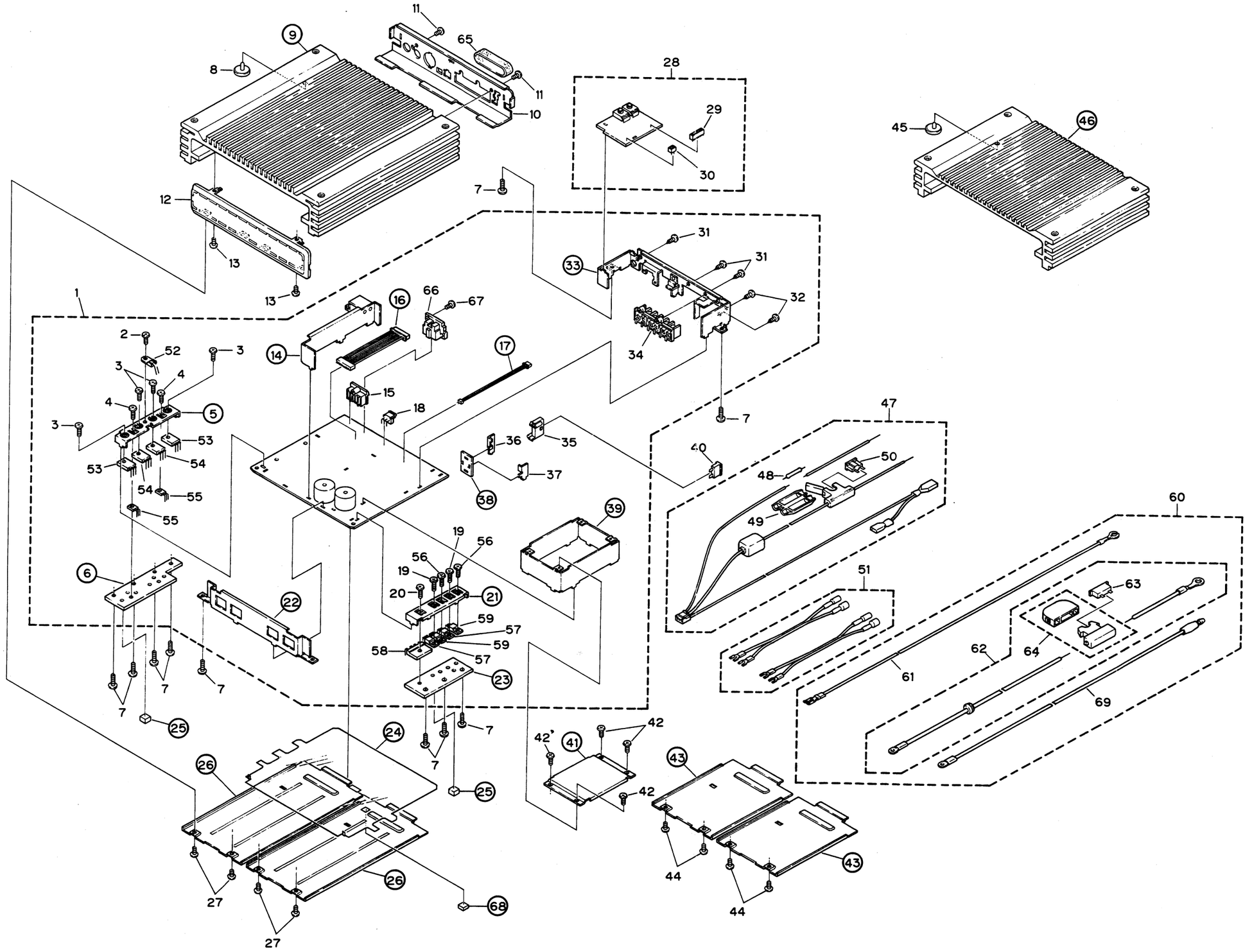



Fig. 6

● **Parts List (**

*NOTE:*

- *The parts ma*
- *Because the p*

| Mark | No. | D |
|---|---|---|
| ◉ | 1 | A |
| | | A |
| | 2 | S |
| | 3 | S |
| | 4 | S |
| | 5 | B |
| | 6 | H |
| | 7 | S |
| | 8 | L |
| | 9 | H |
| | 10 | P |
| | 11 | S |
| | 12 | P |
| | 13 | S |
| | 14 | H |
| | 15 | J |
| | 16 | C |
| | 17 | C |
| | 18 | P |
| | 19 | S |
| | 20 | S |
| | 21 | B |
| | 22 | H |
| | 23 | H |
| | 24 | I |
| | 25 | S |
| | 26 | C |
| | 27 | S |
| ◉ | 28 | V |
| | 29 | P |
| | 30 | P |
| | 31 | S |
| | 32 | S |
| | 33 | B |
| | 34 | T |
| | 35 | F |

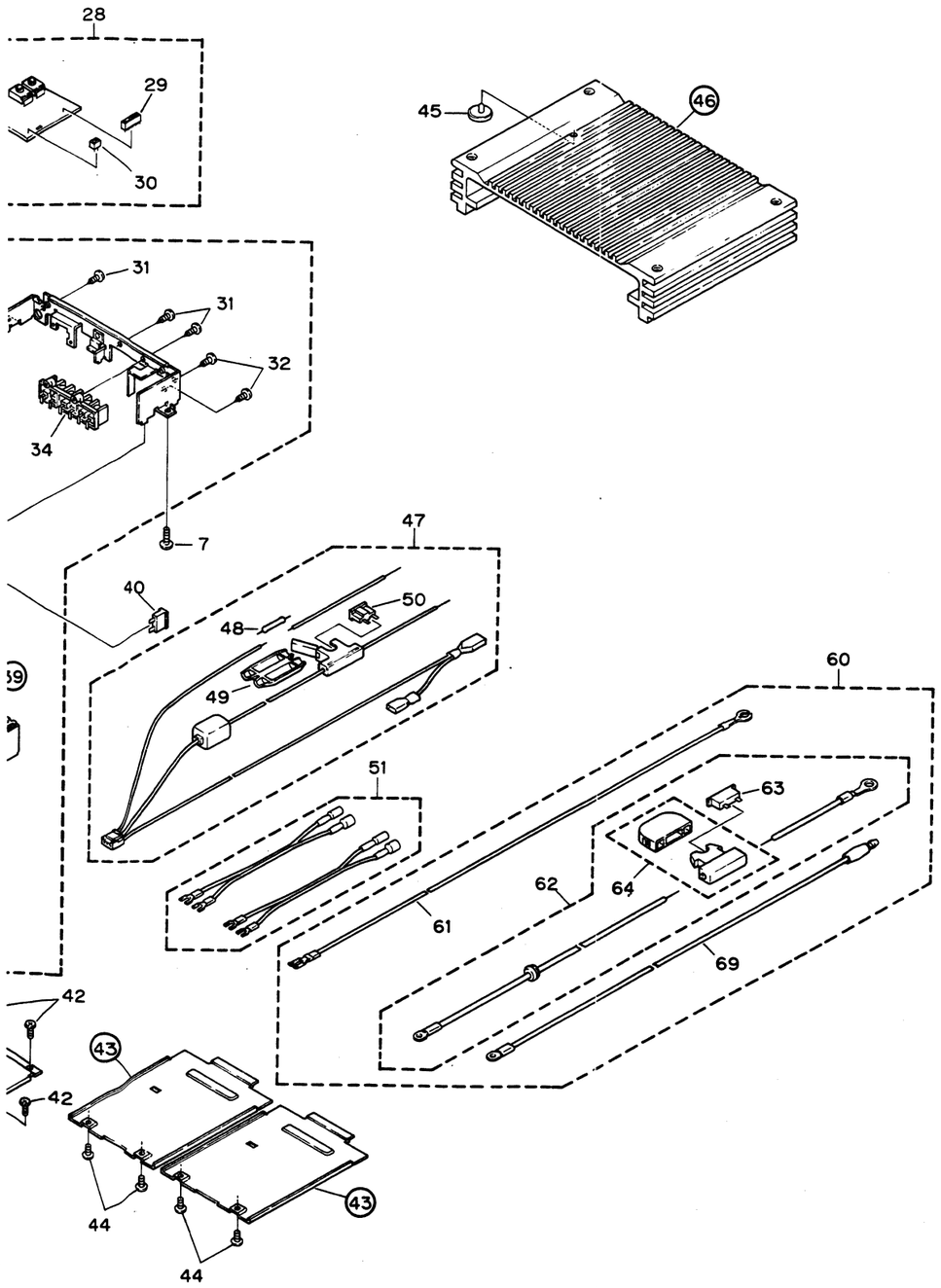



Fig. 6

## ● Parts List (GM-2200/EW, ES)

*NOTE:*

- *The parts marked with "◉" may need long time to supply and their supply is subject to refuse as the case may be.*
- *Because the parts with encircled number shown on the dismantling drawing are not spare parts, we are unable to supply them in principle.*

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ◉ | 1 | Amp Unit (2200/ES) | CWH1102 |
| | | **Amp Unit (2200/EW)** | **CWH1116** |
| | 2 | Screw | BMZ30P050FMC |
| | 3 | Screw | BMZ30P100FMC |
| | 4 | Screw | BMZ30P080FZK |
| | 5 | Bracket | CNC3425 |
| | 6 | Heat Sink | CNC3676 |
| | 7 | Screw | BMZ30P100FMC |
| | 8 | Lens | CNS2050 |
| | 9 | Heat Sink | CNR1176 |
| | 10 | Panel | CNB1392 |
| | 11 | Screw | PMS30P040FZK |
| | 12 | Panel | CNB1445 |
| | 13 | Screw | BMZ30P060FMC |
| | 14 | Holder | CNC3428 |
| | 15 | Jack | CKB1006 |
| | 16 | Connector | CDE3185 |
| | 17 | Connector | CDE3186 |
| | 18 | Plug | CKS1821 |
| | 19 | Screw | BMZ30P080FMC |
| | 20 | Screw | BMZ30P080FMC |
| | 21 | Bracket | CNC3424 |
| | 22 | Holder | CNC3427 |
| | 23 | Heat Sink | CNC3442 |
| | 24 | Insulator | CNM2838 |
| | 25 | Spacer | CNM2983 |
| | 26 | Case | CNB1393 |
| | 27 | Screw | BMZ30P040FMC |
| ◉ | 28 | Volume Unit | CWG1025 |
| | 29 | Plug | CKS1045 |
| | 30 | Plug | CKS1035 |
| | 31 | Screw | PPZ30P080FZK |
| | 32 | Screw | PPZ20P080FZK |
| | 33 | Bracket | CNC3426 |
| | 34 | Terminal | CKE1016 |
| | 35 | Fuse Holder | CKR1001 |
| | 36 | Terminal | CNC3549 |
| | 37 | Terminal | CNC3548 |
| | 38 | P.C.Board | CNP2573 |
| | 39 | Holder | CNC3430 |
| | 40 | Fuse | CEK1140 |
| | 41 | Holder | CNC3431 |
| | 42 | Screw | BMZ30P040FMC |
| | 43-46 | ····· | |
| | 47 | Cord Assy | CDE3308 |
| | 48 | Resistor | RS1/2P102JL |
| | 49 | Cap | CNS1472 |
| | 50 | Fuse | CEK1134 |
| | 51 | Cord Assy | CDE3307 |
| | 52 | Thermister | CCX1009 |
| | 53 | Transistor | 2SD1707 |
| | 54 | Transistor | 2SB1156 |
| | 55 | Transistor | 2SC1568 |
| | 56 | Screw | BMZ30P080FMC |
| | 57 | FET | 2SK1191 |
| | 58 | Diode | RBV-602L |
| | 59 | FET | 2SK1191 |
| | 60 | Cord Assy | CDE3032 |
| | 61 | Cord | CDE3025 |
| | 62 | Cord | CDE3027 |
| | 63 | Fuse | CEK1140 |
| | 64 | Auto Fuse Holder | CKR1006 |
| | 65 | Cover | CNS2052 |
| | 66 | Connector | CKS1156 |
| | 67 | Screw | BMZ20P080FMC |
| | 68 | Spacer | CNM3046 |
| | 69 | ····· | |

| | | | GM-2200/EW, ES | GM-1200/EW, ES |
|---|---|---|---|---|
| Mark | No. | Description | Part No. | Part No. |
| ◉ | 1 | Amp Unit | CWH1102 (ES) | CWH1104 (ES) |
| | | Amp Unit | CWH1116 (EW) | CWH1117 (EW) |
| | 6 | Heat Sink | CNC3676 | CNC3441 |
| | 8 | Lens | CNS2050 | ····· |
| | 9 | Heat Sink | CNR1176 | ····· |
| | 10 | Panel | CNB1392 | CNB1399 |
| | 12 | Panel | CNB1445 | CNB1446 |
| | 25 | Spacer | CNM2983 | ····· |
| | 26 | Case | CNB1393 | ····· |
| | 27 | Screw | BMZ30P040FMC | ····· |
| ◉ | 28 | Volume Unit | CWG1025 | CWG1027 |
| | 34 | Terminal | CKE1016 | CKE1017 |
| | 40 | Fuse | CEK1140 | CEK1137 |
| | 43 | Case | ····· | CNB1395 |
| | 44 | Screw | ····· | BMZ30P040FMC |
| | 45 | Lens | ····· | CNS2053 |
| | 46 | Heat Sink | ····· | CNR1180 |
| | 47 | Cord Assy | CDE3308 | CDE3015 |
| | 51 | Cord Assy | CDE3307 | CDE3018 |
| | 52 | Thermister | CCX1009 | CCX1010 |
| | 53 | Transistor | 2SD1707 | 2SD1705 |
| | 54 | Transistor | 2SB1156 | 2SB1154 |
| | 56 | Screw | BMZ30P080FMC | ····· |
| | 59 | FET | 2SK1191 | ····· |
| | 60 | Cord Assy | CDE3032 | CDE3029 |
| | 61 | Cord | CDE3025 | CDE3020 |
| | 62 | Cord | CDE3027 | ····· |
| | 63 | Fuse | CEK1140 | ····· |
| | 64 | Auto Fuse Holder | CKR1006 | ····· |
| | 69 | Cord | ····· | CDE3022 |

# 8. PACKING METHOD

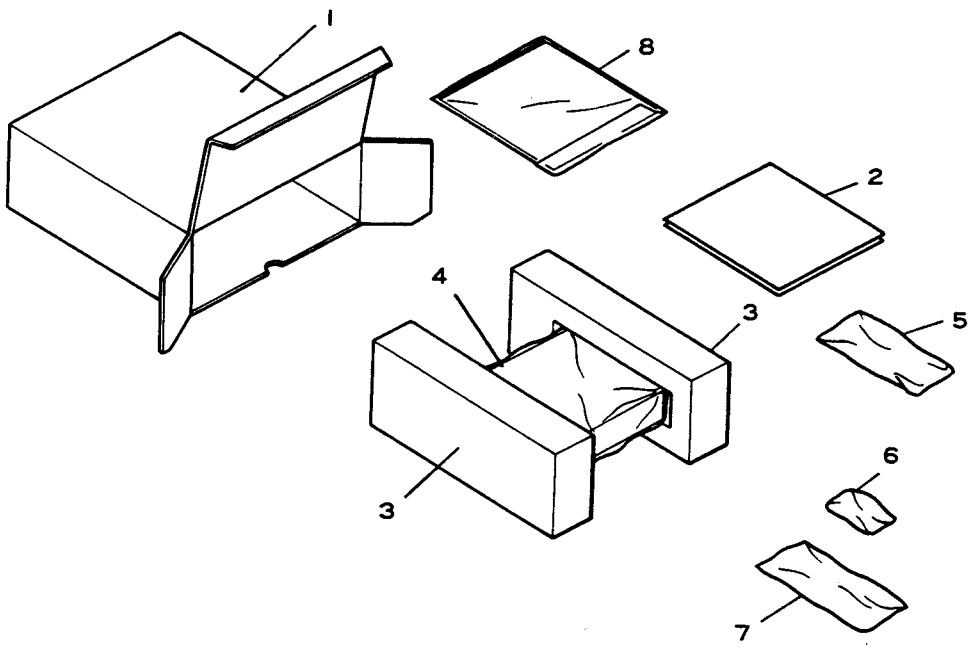



Fig. 7

## ● Parts List

NSP:Non spare part

| Mark No. | Description | GM-2200/EW | GM-2200/ES | GM-1200/EW | GM-1200/ES |
|---|---|---|---|---|---|
| | | Part No. | Part No. | Part No. | Part No. |
| 1 | Carton | CHG1961 | CHG1962 | CHG1959 | CHG1960 |
| 2-1 | Owner's Manual | CRD1450 | CRD1450 | CRD1450 | CRD1450 |
| | Owner's Manual | CRD1451 | ····· | CRD1451 | ····· |
| 2-2 | Card | NSP | ····· | NSP | ····· |
| 3 | Styrofoam | CHP1380 | CHP1380 | CHP1379 | CHP1379 |
| 4 | Polyethylene Bag | CEG1026 | CEG1026 | CEG1042 | CEG1042 |
| 5 | Cord Assy | CDE3308 | CDE3308 | CDE3015 | CDE3015 |
| 6 | Cord Assy | CDE3307 | CDE3307 | CDE3018 | CDE3018 |
| 7-1 | Screw Assy | NSP | NSP | NSP | NSP |
| 7-1-1 | Screw(×4) | HYC50P650FZK | HYC50P650FZK | HYC50P650FZK | HYC50P650FZK |
| 7-2 | Cover | CNS2052 | CNS2052 | CNS2052 | CNS2052 |
| 7-3 | Driver | CNV2697 | CNV2697 | CNV2697 | CNV2697 |
| 8 | Cord Assy | CDE3032 | CDE3032 | CDE3029 | CDE3029 |
| 8-1 | Cord | CDE3025 | CDE3025 | CDE3020 | CDE3020 |
| 8-2 | Cord | CDE3027 | CDE3027 | CDE3022 | CDE3022 |

* Owner's Manual

| Part No. | Model | Language |
|---|---|---|
| CRD1450 | EW, ES | English, French, Spanish, Arabic |
| CRD1451 | EW | German, Swedish, Norwegian, Dutch, Italian, Finnish |